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**Catalog of the Heteroptera, or True Bugs, of Canada and the Continental United States.**—Thomas J. Henry and Richard C. Froeschner (eds.). 1988. E. J. Brill, Leiden, New York, København, Köln, 958 pp. \$58.50.

There was a time when the *Catalogue of the Hemiptera of America North of Mexico*, by E. P. Van Duzee (1917), was considered the Bible of the group in the Nearctic. Unfortunately, that time passed at least two decades ago, and in the meantime, for many groups, North American heteropterists have had to rely on species lists of their own making, or worse yet, with no comprehensive listings at all. In the Lygaeidae, Miridae, and Tingidae the problem was alleviated by World catalogs in those groups (respectively: Slater, 1964; Carvalho, 1957–1960; Drake and Ruhoff, 1965), but for all other groups Van Duzee was still the only source. Now, things have changed. Not only have World compilations appeared for the Leptopodomorpha (see review on page 241) and the Aradidae (Kormilev and Froeschner, 1987), but finally we have available what might be considered a sequel to Van Duzee—an up-to-date catalog of the North American Heteroptera fauna.

Editors Henry and Froeschner, who are also authors of a large number of chapters in the volume, will certainly gain the gratitude of their colleagues for the devotion of time and energy required to bring this work to fruition (Other contributors are: the late P. D. Achlock, J. D. Lattin, D. A. Polhemus, J. T. Polhemus, A. Slater, and C. L. Smith.). In this age of the global economy and overnight travel to anywhere on the face of the earth, one might ask, “Why prepare a regional catalog?” The answer is that such catalogs are extremely valuable to great numbers of entomologists and other biologists whose work is regional in character. But possibly more important, knowledge in many groups of insects is not sufficiently well organized or developed to allow for preparation of truly effective World catalogs. In many cases there are no workers who are capable or inclined to prepare such a volume for every family—something that is certainly true for the Heteroptera at the present. In nearly all groups, development of knowledge of faunas has always presaged the preparation of World revisions and catalogs. With the appearance of this Catalog we might expect to see an increase in the quantity and quality of work on the North American fauna, simply because a complete enumeration of the taxa for the region is now available at an affordable price.

Each chapter, which falls in alphabetical order by family name and which presents all contained taxa in alphabetical order as well, begins by offering a brief overview of the habits and taxonomic history of a family as well as some habitus illustrations. The catalog is laid out in an attractive and easy-to-read manner, orienting the reader's eye to the various subdivision in what seems a natural fashion. Rather than being comprehensive, the catalog lists references to the original description for each genus and species as well as citations for synonymies and misspellings—the last seeming like a poor use of space and bibliographic effort to this reader. For many higher groups, genera, and species, notes are provided, leading users to important additional references on classification, synonymy, and biology. The type locality (or broader distribution) is indicated with the reference to the original description for each species,

and the bibliographic references for each species are followed by a summary listing of occurrences drawn from a broader sampling of the literature than that presented in the catalog.

The editors argue passionately for the use of the term Heteroptera at the ordinal level. The idea cannot be faulted with regard to recognition of a monophyletic group, although the absolute rank of the taxon will probably continue to be a subject of continued debate. At the very minimum, this broad-based work will almost certainly influence North American workers in the future to adopt the term Heteroptera, a usage more in line with that of students of the true bugs from other parts of the World.

The Catalog presents an up-to-date classification for many groups, e.g., the Miridae and Saldidae, taxa with which I have some familiarity. In other cases, the presentation is what I would call idiosyncratic, e.g., treating the Phymatinae at family rank, whereas this group was long since recognized as a subgrouping within the Reduviidae (Carayon, Usinger, and Wygodzinsky, 1958), and has been treated as such by many subsequent authors.

The Literature Cited section (comprising 131) pages will by itself serve as a valuable reference on many occasions. Not since the publication of Parshley's (1925) "A Bibliography of North American Hemiptera-Heteroptera" have heteropterists had available such an extensive listing of literature on the North American fauna. The index will be no less important for use of the catalog. It will allow the user to locate nearly every name (and its variant spellings) ever used for the North American Heteroptera. Although the catalog would otherwise be worthwhile, the index will make it a truly valuable research resource.

There seems to be a tradition—which has been followed by Henry and Froeschner—in the preparation of catalogs dealing with the Nearctic fauna, be it of Hemiptera, Coleoptera, Diptera, or Hymenoptera, to draw the line for inclusion of taxa at the border between Mexico and the United States. It may be that the language and customs of these two countries seem very different to many, but the Nearctic fauna is certainly not restricted to Canada and the continental United States. Thus, except for those groups for which World catalogs are available, knowledge of the large component of the Nearctic fauna occurring on the Mexican plateau—with many groups reaching well into Central America at higher elevations—will continue to require recourse to the original literature.

How many times in the past have I wished that I had a catalog just like this one? Although it will not resolve all questions one might have about a group, it will provide a starting point—and at least for a while—will be right up to date. As a reference, it will be a must for all students of the Heteroptera, as well as for all libraries in North America that deal with entomology.—*Randall T. Schuh, Department of Entomology, American Museum of Natural History, New York, New York 10024.*

#### LITERATURE CITED

- Carayon, J., R. L. Usinger and P. Wygodzinsky. 1958. Notes on the higher classification of the Reduviidae, with the description of a new tribe of Phymatinae (Hemiptera-Heteroptera). *Rev. Zool. Bot. Africaines* 57:256–281.

- Carvalho, J. C. M. 1957–1960. Catalogue Miridae of the World. Arq. Mus. Nac., Rio de Janeiro, 5 vols.
- Drake, C. J. and F. A. Ruhoff. 1965. Lacebugs of the World: a catalog (Hemiptera: Tingidae). Bull. U.S. Nat. Mus. 243:i–viii + 634 pp.
- Kormilev, N. A. and R. C. Froeschner. 1987. Flat bugs of the World. A synonymic list (Heteroptera: Aradidae). Entomography 5:1–246.
- Parshley, H. M. 1925. A Bibliography of the North American Hemiptera-Heteroptera. Smith College, Northampton, Massachusetts, 252 pp.
- Slater, J. A. 1964. A Catalogue of the Lygaeidae of the World. Univ. Connecticut, Storrs, 2 vols.
- Van Duzee, E. P. 1917. Catalogue of the Hemiptera of America North of Mexico. Univ. California Pubs., Tech. Bull., Entomology 2:i–xiv + 902 pp.

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### LIFE CYCLES AND DIAPAUSE

**Insect Development: Photoperiod and Temperature Control.**—Victor A. Zaslavski. 1988. Springer-Verlag, Berlin, xi + 187 pp. Hardbound \$99.95.

The topic of this book is much narrower than the general title of “Insect Development: Photoperiodic and Temperature Control” might indicate. Make no mistake about it, this is a book on diapause. The broader issue of the role that temperature and photoperiod play in other developmental processes is dismissed, on page 11, by the statement, “Mathematical expression of these dependencies can be found in ecological manuals.” Although this is a book about diapause, don’t expect deep physiological insights into the processes involved. The approach taken is what has been described in the physical sciences as *phenomenological*. Within these limits, however, I believe this is an important contribution to the literature on diapause, following the honorable tradition of contributions that phenomenological models have made in areas such as physics.

Zaslavski has organized his book into three chapters. The first is primarily introductory in nature. The second begins to develop the underlying theme of the phenomenological model, and the third states the form of the model and applies it to examples introduced in the first chapter. My review will be structured according to his organization.

The objective of the first chapter is to lay the empirical groundwork for the subsequent model by defining terms, providing a basic classification scheme for photoperiodic reactions, and to illustrate the diversity and complexity of the photoperiodic response by describing numerous experimental results. The abundance of examples is valuable if for no other reason than providing an introduction to the rich literature on diapause, and in particular, the Russian literature that might not be familiar to Western readers. There is, however, a major problem with the first chapter. It is difficult going, almost to the point of brutality. I suspect that many readers, even those with serious interests in diapause, will become frustrated and